

winter injury, failure of the seed crop, viability of the seed, impure and adulterated seed, fodder, yellow trefoil, weeds. Among the fungous diseases discussed are: Leaf spot, wilt, anthracnose, root-rot and damping off, downy mildew, *Ascochyta* leaf-spot, *Stagnospora* leaf-spot, *Cercospora* leaf-spot, *Alternaria* disease (?) of seed, frost blisters on leaves, insect enemies, and root-knot; also, as diseases of unknown cause, white spot, yellow top, pitting of the tap-root, and bundle blackening in the tap-root.—F. L. STEVENS.

Barium and loco.—In a bulletin on loco weeds²¹ CRAWFORD says: "The inorganic constituents, especially barium, are responsible for this action, at least in plants collected at Hugo, Colo. Perhaps in other portions of the country other poisonous principles may be found." *Astragalus mollissimus* and *Aragallus Lamberti* were most fully studied, but other species of these genera, as well as various other genera, have been reported as producing loco.—WM. CROCKER.

Protection against heating.—WIESNER holds that the distribution of green tissues into small leaves or finely divided leaves is a mode of protection against overheating by the sun, and adduces observations and experiments in support therefor.²² This protection is secured by the small size of the parts which expose a relatively large surface for radiation and at the same time permit many light rays to pass them by.—C. R. B.

Balanced solutions.—OSTERHOUT continues his studies upon balanced solutions with plants,²³ reporting that Na ions, by reducing the toxicity of K, NH₄, Mg, and Ca ions, are an important, and in some marine algae an indispensable, protection. He finds that there is no essential difference between plants and animals in this respect.—WM. CROCKER.

²¹ CRAWFORD, A. C., Barium, a cause of the loco-weed disease. Bur. Plant Ind., U. S. Dept. Agric. Bull. 129. pp. 87. 1908.

²² WIESNER, J., Versuche über die Wärmeverhältnisse kleiner, insbesondere linear geformter, von der Sonne bestrahlter Pflanzenorgane. Ber. Deutsch. Bot. Gesells. 26a:702-711. 1908.

²³ OSTERHOUT, W. J. V., Die Schutzwirkung des Natriums für Pflanzen. Jahrb. Bot. 46:121-136. 1908.